RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/510, 506Source: PCTDate Processed by STIC: 10/25/2005

ENTERED

2 MAR 2005



PCT

RAW SEQUENCE LISTING DATE: 10/25/2005 PATENT APPLICATION: US/10/510,506 TIME: 11:58:02

Input Set : A:\US10510506-seq list.txt
Output Set: N:\CRF4\10252005\J510506.raw

```
3 <110> APPLICANT: Evotec NeuroSciences GmbH -
      5 <120> TITLE OF INVENTION: Diagnostic and therapeutic use of Vault polynucleotides
              and proteins for neurodegenerative diseases.
      8 <130> FILE REFERENCE: P67785US1
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/510,506
C--> 11 <141> CURRENT FILING DATE: 2004-10-07
     13 <150> PRIOR APPLICATION NUMBER: 02007820.0
     14 <151> PRIOR FILING DATE: 2002-04-08
     16 <150> PRIOR APPLICATION NUMBER: US 60/370,214
     17 <151> PRIOR FILING DATE: 2002-04-08
     19 <160> NUMBER OF SEQ ID NOS: 14
     21 <170> SOFTWARE: PatentIn Ver. 2.1
     23 <210> SEQ ID NO: 1
     24 <211> LENGTH: 35
     25 <212> TYPE: DNA
     26 <213> ORGANISM: Artificial Sequence
     28 <220> FEATURE:
     29 <223> OTHER INFORMATION: Description of Artificial Sequence: ADPRTL1 cDNA
     30
              fragment
     32 <400> SEQUENCE: 1
     33 aatctaggaa tattccctgg gcttttgagg caatc
                                                                           35
     36 <210> SEQ ID NO: 2
     37 <211> LENGTH: 1724
     38 <212> TYPE: PRT
     39 <213 > ORGANISM: Homo sapiens
     41 <400> SEQUENCE: 2
    42 Met Val Met Gly Ile Phe Ala Asn Cys Ile Phe Cys Leu Lys Val Lys
         1
                                             10
     45 Tyr Leu Pro Gln Gln Gln Lys Lys Leu Gln Thr Asp Ile Lys Glu
                                         25
     48 Asn Gly Gly Lys Phe Ser Phe Ser Leu Asn Pro Gln Cys Thr His Ile
                 35
                                     40
    51 Ile Leu Asp Asn Ala Asp Val Leu Ser Gln Tyr Gln Leu Asn Ser Ile
                                 55
    54 Gln Lys Asn His Val His Ile Ala Asn Pro Asp Phe Ile Trp Lys Ser
    55 65
                             70
     57 Ile Arg Glu Lys Arg Leu Leu Asp Val Lys Asn Tyr Asp Pro Tyr Lys
                                             90
     60 Pro Leu Asp Ile Thr Pro Pro Pro Asp Gln Lys Ala Ser Ser Ser Glu
    61
                    100
     63 Val Lys Thr Glu Gly Leu Cys Pro Asp Ser Ala Thr Glu Glu Glu Asp
                115
                                    120
```

66 Thr Val Glu Leu Thr Glu Phe Gly Met Gln Asn Val Glu Ile Pro His

Input Set : A:\US10510506-seq list.txt
Output Set: N:\CRF4\10252005\J510506.raw

67		130					135					140				
69 1	Leu	Pro	Gln	Asp	Phe	Glu	Val	Ala	Lys	Tyr	Asn	Thr	Leu	Glu	Lys	Val
70 :				•		150			•	•	155				•	160
72 (Gly	Met	Glu	Gly	Gly	Gln	Glu	Ala	Val	Val		Glu	Leu	Gln	Cvs	Ser
73	•			•	165					170					175	
75 2	Ara	Asp	Ser	Arq	asa	Cvs	Pro	Phe	Leu	Ile	Ser	Ser	His	Phe	Leu	Leu
76				180		-1-			185					190		
	asA	A'sp	Glv		Glu	Thr	Ara	Ara	Gln	Phe	Ala	Ile	Lvs		Thr	Ser
79			195				3	200					205	-1-		
_	3111			Ser	Glu	Tvr	Phe		Asn	Tvr	Tle	Glu		T.en	Lvs	Lvs
82		210				_	215		*****	-1-		220	014	DC G	_,5	
			Phe	T.e.i	T.e.ii			Hic	Phe	Thr	Pro		Δla	Thr	Gl n	T.011
85 2		Q - 1		DC u	шси	230	014	*****	1110		235	Olu	nια	1111	GIII	240
		Ser	Glu	Gln	T.e.11		Δla	T.e.11	Leu	T.e.11		Glu	Val	Mat	Δen	
88	114	OCI	Giu	GIII	245	GIII	AIG	пец	пец	250	GIU	Giu	val	Mec	255	361
	Sor	Thr	Lau	Car		Clu	1721	Car	Asp		T/a l	C1.,	Mot	т1.		ת ד ת
91	261	1111	пец	260	GIII	GIU	vaı	Ser	265	пец	vai	Gru	Mec	270	пр	AIG
	~1.,	71-	.T 011		uic	T 011	C1,,	uic	Met	T 011	T 011	Tvra	Dwo		7 00	7. ~~~
94	JIU .	лта	275	Gry	nrs	пец	GIU	280	Mec	пец	пец	цур		vai	ASII	Arg
_	Tla	C^*		Nan	7 an	17-1	C02		77.	c1		т1.	285	T 011	T 011	17-7
		290	Leu	ASII	Asp			ьуѕ	Ala	GIU	GIY		Leu	Leu	ьeu	vai
97			. ה	Ton	T		295	~1	mb so	77.	~1	300	T	71 -	T	Mah
	шув. 305		Ата	пеп	пуѕ		_	GIU	Thr	Ala			ьeu	GIII	гуѕ	
				Dho	. Т.	310			. Dwo		315		. mb		. D	320
102	Mec	1111	GIU	Pile	325		ьеи	. 116	PIC	330	_	СТУ	THE	Met		Lys
	C1.,	17.7	7 0 0				T 011					7			335	Leu
105	GIU	val	. ASI	340		пец	пеп	AIC	. шуы 345		Ald	ASL	теп			Leu
	т1.	7 ~~	. 7~~			7	1707	~			7 ~~	T 0		350		. 7
	TIE	Arg	355		· val	ASII	Val	_		1111	ASI	. Leu		_	PIC	Asn
109	Dwo	Dwa	_		. או	T	(The ease	360		T	7. **		365		. al.	774
112	PIO	370		пеп	Ald	. цув	375	_	, Ala	тес	Arg	_	_	TTE	GIU	His
	77-7			n A a n	The		3/3									
	385		GII	LASII		. ~1.,	~1··			7.**	. 37-1	380				T 011
					1111				Leu	Arg		Arg		Glu	val	Leu
11/	~1~		TITE			390		Phe			395	Arg	Lys			400
	Gln		His		Ser	390 Lys		Phe		Asp	395 Val	Arg	Lys		. Phe	400 Arg
118		Asn		His	Ser 405	390 Lys	Ser	Phe Pro	Val	Asp 410	395 Val	Arg	Lys Gln	ı Ile	Phe 415	400 Arg
118 120		Asn		His Val	Ser 405 Asn	390 Lys	Ser	Phe Pro	Val	Asp 410 Phe	395 Val	Arg	Lys Gln	lle Leu	Phe 415 Gly	400 Arg
118 120 121	Val	Asn Gly	Arg	His Val	Ser 405 Asn	390 Lys Glu	Ser Thr	Phe Pro Thr	Val Glu 425	Asp 410 Phe	395 Val	Arg Leu Ser	Lys Gln Lys	Leu 430	Phe 415 Gly	400 Arg Asn
118 120 121 123	Val	Asn Gly	Arg	His Val 420 Leu	Ser 405 Asn	390 Lys Glu	Ser Thr	Phe Pro Thr	Val Glu 425	Asp 410 Phe	395 Val	Arg Leu Ser	Lys Gln Lys	Leu 430 Val	Phe 415 Gly	400 Arg
118 120 121 123 124	Val Val	Asn Gly Arg	Arg Pro 435	Val 420 Leu	Ser 405 Asn	390 Lys Glu His	Ser Thr Gly	Phe Pro Thr Ser 440	Val Glu 425 Pro	Asp 410 Phe Val	395 Val Leu Gln	Leu Ser Asn	Lys Gln Lys Ile 445	Leu 430 Val	Phe 415 Gly Gly	400 Arg Asn Ile
118 120 121 123 124 126	Val Val	Asn Gly Arg Cys	Arg Pro 435 Arg	Val 420 Leu	Ser 405 Asn	390 Lys Glu His	Ser Thr Gly Leu	Phe Pro	Val Glu 425 Pro	Asp 410 Phe Val	395 Val Leu Gln	Arg Leu Ser Asn Glu	Lys Cln Lys Ile 445 Asp	Leu 430 Val	Phe 415 Gly Gly	400 Arg Asn
118 120 121 123 124 126 127	Val Val Leu	Asn Gly Arg Cys 450	Pro 435 Arg	Val 420 Leu	Ser 405 Asn Leu	390 Lys Glu His	Ser Thr Gly Leu 455	Phe Pro Thr Ser 440	O Val Glu 425 Pro	Asp 410 Phe Val	395 Val Leu Gln Val	Arg Leu Ser Asn Glu 460	Lys Cln Lys Ile 445	Leu 430 Val	Phe 415 Gly Gly	400 Arg Asn Ile
118 120 121 123 124 126 127 129	Val Val Leu Gln	Asn Gly Arg Cys 450	Pro 435 Arg	Val 420 Leu	Ser 405 Asn Leu	390 Lys Glu His Leu Gly	Ser Thr Gly Leu 455 Asn	Phe Pro Thr Ser 440	O Val Glu 425 Pro	Asp 410 Phe Val	395 Val Leu Gln Val	Leu Ser Asn Glu 460	Lys Cln Lys Ile 445	Leu 430 Val	Phe 415 Gly Gly	400 Arg Asn Ile Val
118 120 121 123 124 126 127 129 130	Val Val Leu Gln 465	Asn Gly Arg Cys 450 Arg	Arg Pro 435 Arg	Val 420 Leu Gly	Ser 405 Asn Leu Leu	390 Lys Glu His Leu Gly 470	Ser Thr Gly Leu 455 Asn	Phe Pro Thr Ser 440 Pro	Val Glu 425 Pro D Lys	Asp 410 Phe Val	395 Val Leu Gln Val Gly 475	Arg Leu Ser Asn Glu 460	Lys Gln Lys Ile 445 Asp	Leu 430 Val Arg	Phe 415 Gly Gly Gly	400 Arg Asn Tile Val Asp 480
118 120 121 123 124 126 127 129 130 132	Val Val Leu Gln 465	Asn Gly Arg Cys 450 Arg	Arg Pro 435 Arg	Val 420 Leu Gly	Ser 405 Asn Leu Leu Val	390 Lys Glu His Leu Gly 470 Ile	Ser Thr Gly Leu 455 Asn	Phe Pro Thr Ser 440 Pro	Val Glu 425 Pro D Lys	Asp 410 Phe Val Val	395 Val Leu Gln Val Gly 475 Pro	Arg Leu Ser Asn Glu 460	Lys Gln Lys Ile 445 Asp	Leu 430 Val Arg	Phe 415 Gly Gly Gly Ser	400 Arg Asn Ile Val Asp 480 Gly
118 120 121 123 124 126 127 129 130 132 133	Val Val Leu Gln 465 Ser	Asn Gly Arg Cys 450 Arg	Pro 435 Arg Thr	Val 420 Leu Gly Asp	Ser 405 Asn Leu Leu Val	390 Lys Glu His Leu Gly 470 Ile	Ser Thr Gly Leu 455 Asn	Phe Pro Thr Ser 440 Pro Leu	Value Glu 425 Pro De Lys	Asp 410 Phe Val Val Ser His 490	395 Val Leu Gln Val Gly 475 Pro	Leu Ser Asn Glu 460 Ile	Lys Gln Lys Ile 445 Asp Tyr	Leu 430 Val Arg	e Phe 415 Gly Gly Gly Ser Asp	400 Arg Asn Ile Val Asp 480 Gly
118 120 121 123 124 126 127 129 130 132 133 135	Val Val Leu Gln 465 Ser	Asn Gly Arg Cys 450 Arg	Pro 435 Arg Thr	Val 420 Leu Gly Asp	Ser 405 Asn Leu Leu Val Ser 485 Leu	390 Lys Glu His Leu Gly 470 Ile	Ser Thr Gly Leu 455 Asn	Phe Pro Thr Ser 440 Pro Leu	Value Glu 425 Pro Lys Gly Gly Ser	Asp 410 Phe Val Val Ser His 490 Ala	395 Val Leu Gln Val Gly 475 Pro	Leu Ser Asn Glu 460 Ile	Lys Gln Lys Ile 445 Asp Tyr	Leu 430 Val Arg	e Phe 415 Gly Gly Gly Ser Asp 495	400 Arg Asn Ile Val Asp 480 Gly
118 120 121 123 124 126 127 129 130 132 133 135	Val Val Leu Gln 465 Ser Thr	Asn Gly Arg Cys 450 Arg Leu	Pro 435 Arg Thr	Val 420 Leu Gly Asp Thr	Ser 405 Asn Leu Val Ser 485 Leu	390 Lys Glu His Leu Gly 470 Ile	Ser Thr Gly Leu 455 Asn Lys	Phe Pro Thr Ser 440 Pro Leu Tyr	Value Glu 425 Pro Lys Gly Ser Ser Val	Asp 410 Phe Val Val Ser His 490 Ala	395 Val Leu Gln Val 475 Pro	Leu Ser Asn Glu 460 Ile Gly	Lys Gln Lys Ile 445 Asp Tyr Glu	Leu 430 Val Arg Phe Thr	Gly Gly Ser Asp	400 Arg Asn The Val Asp 480 Gly Asp
118 120 121 123 124 126 127 129 130 132 133 135	Val Val Leu Gln 465 Ser Thr	Asn Gly Arg Cys 450 Arg Leu	Pro 435 Arg Thr	His Val 420 Leu Gly Asp Thr Leu 500 Lys	Ser 405 Asn Leu Val Ser 485 Leu	390 Lys Glu His Leu Gly 470 Ile	Ser Thr Gly Leu 455 Asn Lys	Phe Pro Thr Ser 440 Pro Leu Tyr	Value Glu 425 Pro Lys Gly Ser Value Thr	Asp 410 Phe Val Val Ser His 490 Ala	395 Val Leu Gln Val 475 Pro	Leu Ser Asn Glu 460 Ile Gly	Lys Gln Lys Ile 445 Asp Tyr Glu	Leu 430 Val Arg Phe Thr	Gly Gly Ser Asp	400 Arg Asn Ile Val Asp 480 Gly

Input Set : A:\US10510506-seq list.txt
Output Set: N:\CRF4\10252005\J510506.raw

141 142	Ser	Val 530	His	Gly	Val	Ser	Gln 535	Thr	Ala	Ser	Val	Thr 540	Thr	Asp	Phe	Glu
	7 ~~		Cl.	Dha	770 T	1707		T	mb	7	~1 <u>~</u>		T	V	T	III ess
	_	Asp	GIU	Pile	vai		Tyr	гÃг	IIIL	ASII		vai	ьуs	Met	гуѕ	_
	545		_		_	550		_			555			_		560
147	Ile	Ile	Lys	Phe	Ser	Met	Pro	Gly	Asp	Gln	Ile	Lys	Asp	Phe	His	Pro
148					565					570					575	
150	Ser	Asp	His	Thr	Glu	Leu	Glu	Glu	\mathtt{Tyr}	Arg	Pro	Glu	Phe	Ser	Asn	Phe
151				580					585					590		
153	Ser	Lys	Val	Glu	Asp	Tyr	Gln	Leu	Pro	Asp	Ala	Lys	Thr	Ser	Ser	Ser
154			595					600					605			
156	Thr	Lys	Ala	Gly	Leu	Gln	Asp	Ala	Ser	Gly	Asn	Leu	Val	Pro	Leu	Glu
157		610					615			_		620				
159	Asp	Val	His	Ile	Lys	Gly	Arg	Ile	Ile	Asp	Thr	Val	Ala	Gln	Val	Ile
	625				-	630	_			-	635					640
162	Val	Phe	Gln	Thr	Tvr	Thr	Asn	Lvs	Ser	His	Val	Pro	Ile	Glu	Ala	Lvs
163					645			•		650		•			655	2
	Tvr	Ile	Phe	Pro		Asp	Asp	Lvs	Ala		Val	Cvs	Glv	Phe		Ala
166	-1-		••••	660				-1-	665			0,0	011	670		
	Phe	Tle	Asn		Lvs	His	Ile	Val		Glu	Tle	Lvs	Glu		Glu	Glu
169			675	O, - 1				680	011	014		<i> y </i>	685	_,5	014	024
	Δla	Gln		Glu	Tv/r	T.e.11	Glu		Val	Thr	Gln	Clv		Gl v	Δla	ጥህን
172	1114	690	0111	014	- y -	Lcu	695	mu	VUL	1111	0111	700	1115	OLY	HΙα	- 7 -
	T.A11		Car	Gln	λen	λla	Pro	Acn	T-1	Dho	Thr		Sor	T/a l	Glv	Λcn
	705	Mec	SCI	GIII	rsp	710	FIO	veh	vai	FIIC	715	vai	SET	vai	GIY	720
		Dro	Dro	Lazo	λla		Val	T 011	Tla	Tara		Th∽	m~	Tla	Thr	
178	пеп	PIO	PIO	пуѕ	725	гур	vai	пеп	TIE	730		1111	ıyı	ire		GIU
	T 011	C0~	Tla	T 011		mh~	Val	C1	t7-1			Mot	Dwo	77.	735	7707
	тец	ser	TIE	740	GIY	1111	vai	GIY		Pile	Pne	Met	PIO		TIII	vai
181	777	D~~	m~~		~1 m	7	T	77-	745	7. ~~	01	7 ~~	T	750	7 ~~	mh
	Ala	PIO	_	GIII	GIII	Asp	Lys		ьeu	Asn	GIU	ASI		GIN	Asp	Thr
184	**- 7	a 1	755	77.	C	* 1.	T	760	- 1 -	0 3	m1	T	765	a	51. .	
	vai		гаг	тте	Cys	тте	Lys	GIU	тте	GIY	Thr	_	GIN	ser	Pne	ser
187	<u>.</u>	770		_		~7	775	_	_			780	_,		_,	_
		Thr	Met	Ser	тте		Met	Pro	Tyr	Vат		GIu	Phe	He	Phe	
	785		1	~-	_	790		_			795		_			800
	Asp	Thr	His	GIu		Lys	GIn	Lys	Arg		Asp	Cys	Lys	Ala		Ile
193		_			805					810					815	,
	Ser	Thr	Met		Gly	Ser	Ser	Leu		Ser	Ser	Gly	Phe	Ser	Leu	His
196				820					825					830		
198	Ile	Gly	Leu	Ser	Ala	Ala	Tyr	Leu	Pro	Arg	Met	\mathtt{Trp}	Val	Glu	Lys	His
199			835					840					845			
201	Pro	Glu	Lys	Glu	Ser	Glu	Ala	Cys	Met	Leu	Val	Phe	Gln	Pro	Asp	Leu
202		850					855					860				
204	Asp	Val	Asp	Leu	Pro	Asp	Leu	Ala	Ser	Glu	Ser	Glu	Val	Ile	Ile	Cys
205	865					870					875					880
207	Leu	Asp	Cys	Ser	Ser	Ser	Met	Glu	Gly	Val	Thr	Phe	Leu	Gln	Ala	Lys
208		-	-		885				••	890					895	-
	Gln	Ile	Ala	Leu		Ala	Leu	Ser	Leu		Gly	Glu	Lys	Gln		Val
211				900					905		-		_	910	4	
	Asn	Ile	Ile	Gln	Phe	Glv	Thr	Glv		Lvs	Glu	Leu	Phe		Tvr	Pro
						- 4		- 4	4 -	4 -						

Input Set : A:\US10510506-seq list.txt
Output Set: N:\CRF4\10252005\J510506.raw

214			915					920					925			
216	Lys	His	Ile	Thr	Ser	Asn	Thr	Ala	Ala	Ala	Glu	Phe	Ile	Met	Ser	Ala
217	_	930					935					940				
219	Thr	Pro	Thr	Met	Gly	Asn	Thr	Asp	Phe	Trp	Lys	Thr	Leu	Arg	Tyr	Leu
	945				_	950		_		_	955			Ū	-	960
222	Ser	Leu	Leu	Tyr	Pro	Ala	Arg	Gly	Ser	Arq	Asn	Ile	Leu	Leu	Val	Ser
223				•	965		_	-		970					975	
225	Asp	Gly	His	Leu	Gln	Asp	Glu	Ser	Leu	Thr	Leu	Gln	Leu	Val	Lys	Arg
226	-	_		980		_			985					990	-	_
	Ser	Arg	Pro	His	Thr	Arg	Leu	Phe	Ala	Cys	Gly	Ile	Gly	Ser	Thr	Ala
229		_	995			_		1000		-	-		1005			
231	Asn	Arg	His	Val	Leu	Arg	Ile	Leu	Ser	Gln	Cys	Gly	Ala	Gly	Val	Phe
232		1010				_	1015				_	1020		-		
234	Glu	Tyr	Phe	Asn	Ala	Lys	Ser	Lys	His	Ser	Trp	Arg	Lys	Gln	Ile	Glu
	1029	-				1030		_			L035	_	_			L040
237	Asp	Gln	Met	Thr	Arg	Leu	Cys	Ser	Pro	Ser	Cys	His	Ser	Val	Ser	Val
238	_				1045		-			L050	_				L055	
240	Lys	Trp	Gln	Gln	Leu	Asn	Pro	Asp	Ala	Pro	Glu	Ala	Leu	Gln	Ala	Pro
241	_	_		1060					L065					1070		
243	Ala	Gln	Val	Pro					Asn	Asp	Arg	Leu	Leu	Val	Tyr	Gly
244		:	1075				1	1080		_		:	1085		7	_
246	Phe	Ile	Pro	His	Cys	Thr	Gln	Ala	Thr	Leu	Cys	Ala	Leu	Ile	Gln	Glu
247	-	1090				- 1	L095				1	1100				
249	Lys	Glu	Phe	Cys	Thr	Met	Val	Ser	Thr	Thr	Glu	Leu	Gln	Lys	Thr	Thr
250	1109	5			3	L110				1	1115				1	120
252	Glv	Thr	Mot	TIA	IIi a	T	7			_		_	-1		_	
~	U	T 111	Mec	TTG	UTS	ьys	ьeu	Ala	Ala	Arg	Ala	ьeu	тте	Arg	Asp	Tyr
253	O. J	1111	Mec		1125	ьуѕ	ьeu	Ala		Arg 130	Ala	Leu	11e		Asp L135	Tyr
253				=	1125				3	L130						
253			Gly	=	1125			Asn	3	L130			Glu		L135	
253 255 256	Glu	Asp	Gly	Ile 1140	1125 Leu	His	Glu	Asn	Glu L145	1130 Thr	Ser	His	Glu	: Met 1150	L135	Lys
253 255 256 258 259	Glu Gln	Asp Thr	Gly Leu 1155	Ile 1140 Lys	Leu Ser	His Leu	Glu Ile	Asn Ile 1160	Glu L145 Lys	Thr Leu	Ser Ser	His Lys	Glu Glu I165	Met L150 Asn	Lys Ser	Lys Leu
253 255 256 258 259	Glu Gln	Asp Thr	Gly Leu 1155	Ile 1140 Lys	Leu Ser	His Leu	Glu Ile	Asn Ile 1160	Glu L145 Lys	Thr Leu	Ser Ser	His Lys	Glu Glu I165	Met L150 Asn	L135 Lys	Lys Leu
253 255 256 258 259 261 262	Glu Gln Ile	Asp Thr Thr L170	Gly Leu 1155 Gln	Ile 1140 Lys Phe	Leu Ser Thr	His Leu Ser	Glu Ile Phe	Asn Ile I160 Val	Glu L145 Lys Ala	Thr Leu Val	Ser Ser Glu	His Lys Lys Lys	Glu Glu 1165 Arg	Met 1150 Asn Asp	Lys Ser Glu	Lys Leu Asn
253 255 256 258 259 261 262	Glu Gln Ile	Asp Thr Thr L170	Gly Leu 1155 Gln	Ile 1140 Lys Phe	Leu Ser Thr	His Leu Ser Asp	Glu Ile Phe	Asn Ile I160 Val	Glu L145 Lys Ala	Thr Leu Val Val	Ser Ser Glu Ser	His Lys Lys Lys	Glu Glu 1165 Arg	Met 1150 Asn Asp	Lys Ser	Lys Leu Asn
253 255 256 258 259 261 262 264 265	Glu Gln Ile Glu 1189	Asp Thr Thr 1170 Ser	Gly Leu 1155 Gln Pro	Ile 1140 Lys Phe	Leu Ser Thr	His Leu Ser Asp	Glu Ile Phe 175 Ile	Asn Ile 1160 Val Pro	Glu 1145 Lys Ala Lys	1130 Thr Leu Val Val	Ser Ser Glu Ser	Lys Lys Lys 1180 Glu	Glu Glu 1165 Arg	Met 1150 Asn Asp	Lys Lys Ser Glu Ala	Lys Leu Asn Lys
253 255 256 258 259 261 262 264 265 267	Glu Gln Ile Glu 1189	Asp Thr Thr 1170 Ser	Gly Leu 1155 Gln Pro	Ile 1140 Lys Phe Phe	Leu Ser Thr Pro	His Leu Ser Asp	Glu Ile Phe 175 Ile	Asn Ile 1160 Val Pro	Glu 1145 Lys Ala Lys Met	Leu Val Val Ser	Ser Glu Ser Ser	Lys Lys Lys 1180 Glu	Glu Glu 1165 Arg	Met 1150 Asn Asp Ile	Lys Lys Ser Glu Ala Pro	Lys Leu Asn Lys
253 255 256 258 259 261 262 264 265 267 268	Glu Gln Ile Glu 1185 Glu	Asp Thr Thr 170 Ser Asp	Gly Leu 1155 Gln Pro	Ile 1140 Lys Phe Phe	Leu Ser Thr Pro Phe	His Leu Ser Asp 1190 Leu	Glu Ile Phe 175 Ile Pro	Asn Ile 1160 Val Pro	Glu 1145 Lys Ala Lys Met	Leu Val Val Ser	Ser Glu Ser 195 Trp	Lys Lys 1180 Glu	Glu Glu 1165 Arg Leu	Met 1150 Asn Asp Ile	Lys Ser Glu Ala Pro	Lys Leu Asn Lys 1200 Gln
253 255 256 258 259 261 262 264 265 267 268	Glu Gln Ile Glu 1185 Glu	Asp Thr Thr 170 Ser Asp	Leu 1155 Gln Pro Val	Ile Ile Il40 Lys Phe Phe Asp	Leu Ser Thr Pro Phe	His Leu Ser Asp 1190 Leu	Glu Ile Phe 175 Ile Pro	Asn Ile 1160 Val Pro Tyr	Glu 1145 Lys Ala Lys Met	Leu Val Val Ser	Ser Glu Ser 195 Trp	Lys Lys 1180 Glu	Glu Glu 1165 Arg Leu	Met 1150 Asn Asp Ile	Lys Lys Ser Glu Ala Pro	Lys Leu Asn Lys 1200 Gln
253 255 256 258 259 261 262 264 265 267 268 270 271	Glu Ile Glu 1185 Glu Glu Glu	Asp Thr 1170 Ser Asp Ala	Leu 1155 Gln Pro Val	Ile 1140 Lys Phe Phe Asp Arg	Ser Thr Pro Phe 1205 Asn	His Leu Ser Asp 1190 Leu Gln	Glu Ile Phe 175 Ile Pro Ser	Asn Ile 1160 Val Pro Tyr Leu	Glu 1145 Lys Ala Lys Met Leu Leu	L130 Thr Leu Val Val Ser 1210 Ala	Ser Glu Ser 195 Trp Ser	Lys Lys 1180 Glu Gln Ser	Glu Glu 1165 Arg Leu Gly	Met 1150 Asn Asp Ile Glu Trp	L135 Lys Ser Glu Ala Pro 1215 Pro	Lys Leu Asn Lys 200 Gln
253 255 256 258 259 261 262 264 265 267 268 270 271	Glu Ile Glu 1185 Glu Glu Glu	Asp Thr 1170 Ser Asp Ala	Leu 1155 Gln Pro Val	Ile 1140 Lys Phe Phe Asp Arg	Ser Thr Pro Phe 1205 Asn	His Leu Ser Asp 1190 Leu Gln	Glu Ile Phe 175 Ile Pro Ser Lys	Asn Ile 1160 Val Pro Tyr Leu His	Glu 1145 Lys Ala Lys Met Leu Leu	L130 Thr Leu Val Val Ser 1210 Ala	Ser Glu Ser 195 Trp Ser	Lys Lys 1180 Glu Gln Ser	Glu Glu 1165 Arg Leu Gly	Met 1150 Asn Asp Ile Glu Trp	Lys Ser Glu Ala Pro	Lys Leu Asn Lys 200 Gln
253 255 256 258 259 261 262 264 265 267 268 270 271 273 274	Glu Ile Glu 1189 Glu Glu Leu	Asp Thr 170 Ser Asp Ala Arg	Leu 155 Gln Pro Val Val Leu	Ile 1140 Lys Phe Phe Asp Arg 1220 Ser	Ser Thr Pro Phe 1205 Asn	His Leu Ser Asp 190 Leu Gln Arg	Glu Ile Phe 175 Ile Pro Ser Lys	Asn Ile 1160 Val Pro Tyr Leu His	Glu L145 Lys Ala Lys Met Leu L225 Arg	L130 Thr Leu Val Val Ser L210 Ala	Ser Glu Ser 195 Trp Ser Ile	Lys Lys 180 Glu Gln Ser	Glu Glu 1165 Arg Leu Gly Glu Phe	Met 1150 Asn Asp Ile Glu Trp 1230 Ser	Lys Ser Glu Ala Pro L215 Pro Lys	Lys Leu Asn Lys 200 Gln Glu Arg
253 255 256 258 259 261 262 264 265 267 268 270 271 273 274 276	Glu Ile Glu 1189 Glu Glu Leu Lys	Thr Thr 170 Ser Asp Ala Arg	Leu 155 Gln Pro Val Val Leu	Ile 1140 Lys Phe Phe Asp Arg 1220 Ser	Ser Thr Pro Phe 1205 Asn	His Leu Ser Asp 1190 Leu Gln Arg	Glu Ile Phe 175 Ile Pro Ser Lys Pro	Asn Ile 1160 Val Pro Tyr Leu His	Glu L145 Lys Ala Lys Met Leu L225 Arg	L130 Thr Leu Val Val Ser L210 Ala	Ser Glu Ser 1195 Trp Ser Ile Glu	Lys Lys 1180 Glu Gln Ser Pro	Glu Glu 1165 Arg Leu Gly Glu Phe	Met 1150 Asn Asp Ile Glu Trp 1230 Ser	L135 Lys Ser Glu Ala Pro 1215 Pro	Lys Leu Asn Lys 200 Gln Glu Arg
253 255 256 258 259 261 262 264 265 267 268 270 271 273 274 276 277	Glu Ile Glu 1189 Glu Glu Leu Lys	Asp Thr Thr 170 Ser Asp Ala Arg Met	Leu 1155 Gln Pro Val Val Leu 1235 Glu	Ile il40 Lys Phe Phe Asp Arg i220 Ser Leu	Ser Thr Pro Phe 1205 Asn Lys Ser	His Leu Ser Asp 190 Leu Gln Arg	Phe 175 11e Pro Ser Lys Pro	Asn Ile 1160 Val Pro Tyr Leu His 1240 Glu	Glu L145 Lys Ala Lys Met Leu L225 Arg	Leu Val Val Ser L210 Ala Lys Ser	Ser Glu Ser 1195 Trp Ser Ile Glu	Lys Lys 1180 Glu Gln Ser Pro Asp	Glu I165 Arg Leu Gly Glu Phe 1245 Phe	Met 1150 Asn Asp Ile Glu Trp 1230 Ser	Lys Ser Glu Ala Pro 1215 Pro Lys Glu	Lys Leu Asn Lys 200 Gln Glu Arg Asp
253 255 256 258 259 261 262 264 265 267 271 273 274 276 277 279	Glu Ile Glu 1189 Glu Glu Leu Lys Gly	Asp Thr Thr 170 Ser Asp Ala Arg Met 1250 Leu	Leu 1155 Gln Pro Val Val Leu 1235 Glu	Ile i140 Lys Phe Phe Asp Arg i220 Ser Leu	Ser Thr Pro Phe 1205 Asn Lys Ser Leu	His Leu Ser Asp 190 Leu Gln Arg Gln Pro	Phe 175 11e Pro Ser Lys Pro	Asn Ile 1160 Val Pro Tyr Leu His 1240 Glu	Glu L145 Lys Ala Lys Met Leu L225 Arg	Leu Val Val Ser L10 Ala Lys Ser Ser	Ser Glu Ser 195 Trp Ser Ile Glu Asn	Lys Lys 1180 Glu Gln Ser Pro Asp	Glu I165 Arg Leu Gly Glu Phe 1245 Phe	Met 1150 Asn Asp Ile Glu Trp 1230 Ser	L135 Lys Ser Glu Ala Pro L215 Pro Lys Glu	Lys Leu Asn Lys 200 Gln Glu Arg Asp Gly
253 255 256 258 259 261 262 264 265 267 268 270 271 273 274 276 277 279 280	Glu Ile Glu 1189 Glu Glu Leu Lys Gly 1269	Asp Thr Thr 170 Ser Asp Ala Arg Met 1250 Leu	Gly Leu 1155 Gln Pro Val Val Leu 1235 Glu Gly	Ile i140 Lys Phe Phe Asp Arg i220 Ser Leu Val	Ser Thr Pro Phe 1205 Asn Lys Ser Leu	His Leu Ser Asp 190 Leu Gln Arg Gln Pro	Phe 175 11e Pro Ser Lys Pro 255 Ala	Asn Ile 1160 Val Pro Tyr Leu His 1240 Glu Phe	Glu l145 Lys Ala Lys Met Leu l225 Arg Val	Leu Val Val Ser L130 Ser L210 Ala Lys Ser	Ser Glu Ser 195 Trp Ser Ile Glu Asn	Lys Lys 180 Glu Gln Ser Pro Asp 1260 Leu	Glu Glu 1165 Arg Leu Gly Glu Phe 1245 Phe Glu	Met 1150 Asn Asp Ile Glu Trp 1230 Ser Glu Arg	L135 Lys Ser Glu Ala Pro L215 Pro Lys Glu	Lys Leu Asn Lys 200 Gln Glu Arg Asp Gly 280
253 255 256 258 259 261 262 264 265 267 271 273 274 276 277 279 280 282	Glu Ile Glu 1189 Glu Glu Leu Lys Gly 1269	Asp Thr Thr 170 Ser Asp Ala Arg Met 1250 Leu	Gly Leu 1155 Gln Pro Val Val Leu 1235 Glu Gly	Ile il40 Lys Phe Phe Asp Arg i220 Ser Leu Val	Ser Thr Pro Phe 1205 Asn Lys Ser Leu Leu	His Leu Ser Asp 190 Leu Gln Arg Gln Pro	Phe 175 11e Pro Ser Lys Pro 255 Ala	Asn Ile 1160 Val Pro Tyr Leu His 1240 Glu Phe	Glu 1145 Lys Ala Lys Met Leu 1225 Arg Val Thr	Leu Val Val Ser Lys Ser Ser Thr	Ser Glu Ser 195 Trp Ser Ile Glu Asn	Lys Lys 180 Glu Gln Ser Pro Asp 1260 Leu	Glu Glu 1165 Arg Leu Gly Glu Phe 1245 Phe Glu	Met 1150 Asn Asp Ile Glu Trp 1230 Ser Glu Arg	Lys Ser Glu Ala Pro L215 Pro Lys Glu Gly Pro	Lys Leu Asn Lys 200 Gln Glu Arg Asp Gly 280
253 255 256 258 259 261 262 264 265 267 271 273 274 276 277 280 282 283	Glu Ile Glu 1189 Glu Glu Leu Lys Gly 1269 Val	Thr Thr 170 Ser Asp Ala Arg Met 1250 Leu Glu	Gly Leu 155 Gln Pro Val Val Leu 1235 Glu Gly Lys	Ile 1140 Lys Phe Phe Asp 1220 Ser Leu Val	Ser Thr Pro Phe 1205 Asn Lys Ser Leu Leu 1285	His Leu Ser Asp 190 Leu Gln Arg Gln Pro 1270 Asp	Phe 175 11e Pro Ser Lys Pro 255 Ala	Asn Ile 1160 Val Pro Tyr Leu His 1240 Glu Phe Ser	Glu 1145 Lys Ala Lys Met 1225 Arg Val Thr	Leu Val Val Ser Lys Ser Ser Thr	Ser Glu Ser 195 Trp Ser Ile Glu Asn 1275 Glu	Lys Lys 180 Glu Gln Ser Pro Asp 1260 Leu Ser	Glu Glu 1165 Arg Leu Gly Glu Phe 1245 Phe Glu Cys	Met 1150 Asn Asp Ile Glu Trp 1230 Ser Glu Arg	Ser Glu Ala Pro 1215 Pro Lys Glu Gly Pro 1295	Lys Leu Asn Lys 200 Gln Glu Arg Asp Gly 280 Thr
253 255 256 258 259 261 262 264 265 267 271 273 274 276 277 280 282 283	Glu Ile Glu 1189 Glu Glu Leu Lys Gly 1269 Val	Thr Thr 170 Ser Asp Ala Arg Met 1250 Leu Glu	Gly Leu 1155 Gln Pro Val Val Leu 1235 Glu Gly Lys Glu	Ile 1140 Lys Phe Phe Asp 1220 Ser Leu Val	Ser Thr Pro Phe 1205 Asn Lys Ser Leu Leu 1285	His Leu Ser Asp 190 Leu Gln Arg Gln Pro 1270 Asp	Phe 175 11e Pro Ser Lys Pro 255 Ala	Asn Ile 1160 Val Pro Tyr Leu His 1240 Glu Phe Ser Lys	Glu 1145 Lys Ala Lys Met 1225 Arg Val Thr	Leu Val Val Ser Lys Ser Ser Thr	Ser Glu Ser 195 Trp Ser Ile Glu Asn 1275 Glu	Lys Lys 180 Glu Gln Ser Pro Asp 1260 Leu Ser	Glu Il65 Arg Leu Gly Glu Phe I245 Phe Glu Cys	Met 1150 Asn Asp Ile Glu Trp 1230 Ser Glu Arg	Lys Ser Glu Ala Pro L215 Pro Lys Glu Gly Pro	Lys Leu Asn Lys 200 Gln Glu Arg Asp Gly 280 Thr

Input Set : A:\US10510506-seq list.txt
Output Set: N:\CRF4\10252005\J510506.raw

288 Ser Ser Phe Phe Pro Ile Leu Ala Pro Ala Val Gly Ser Tyr Leu Thr 289 1315 1320 291 Pro Thr Thr Arg Ala His Ser Pro Ala Ser Leu Ser Phe Ala Ser Tyr 292 1330 1335 1340 294 Arg Gln Val Ala Ser Phe Gly Ser Ala Ala Pro Pro Arg Gln Phe Asp 295 1345 1350 1355 297 Ala Ser Gln Phe Ser Gln Gly Pro Val Pro Gly Thr Cys Ala Asp Trp 1370 1375 1365 300 Ile Pro Gln Ser Ala Ser Cys Pro Thr Gly Pro Pro Gln Asn Pro Pro 301 1380 . 1385 303 Ser Ala Pro Tyr Cys Gly Ile Val Phe Ser Gly Ser Ser Leu Ser Ser 1400 306 Ala Gln Ser Ala Pro Leu Gln His Pro Gly Gly Phe Thr Thr Arg Pro 307 1410 1415 1420 309 Ser Ala Gly Thr Phe Pro Glu Leu Asp Ser Pro Gln Leu His Phe Ser 310 1425 1430 1435 1440 312 Leu Pro Thr Asp Pro Asp Pro Ile Arg Gly Phe Gly Ser Tyr His Pro 1450 1455 1445 315 Ser Ala Tyr Ser Pro Phe His Phe Gln Pro Ser Ala Ala Ser Leu Thr 316 1460 1465 318 Ala Asn Leu Arg Leu Pro Met Ala Ser Ala Leu Pro Glu Ala Leu Cys 319 1475 1485 1480 321 Ser Gln Ser Arg Thr Thr Pro Val Asp Leu Cys Leu Leu Glu Glu Ser 1500 1495 324 Val Gly Ser Leu Glu Gly Ser Arg Cys Pro Val Phe Ala Phe Gln Ser 1510 1515 327 Ser Asp Thr Glu Ser Asp Glu Leu Ser Glu Val Leu Gln Asp Ser Cys 1525 1530 330 Phe Leu Gln Ile Lys Cys Asp Thr Lys Asp Asp Ser Ile Pro Cys Phe 331 1540 1545 333 Leu Glu Val Lys Glu Glu Asp Glu Ile Val Cys Thr Gln His Trp Gln 334 1555 1560 1565 336 Asp Ala Val Pro Trp Thr Glu Leu Leu Ser Leu Gln Thr Glu Asp Gly 1570 1575 1580 339 Phe Trp Lys Leu Thr Pro Glu Leu Gly Leu Ile Leu Asn Leu Asn Thr **340 1585 1590 1595** 342 Asn Gly Leu His Ser Phe Leu Lys Gln Lys Gly Ile Gln Ser Leu Gly 1610 1615 1605 345 Val Lys Gly Arg Glu Cys Leu Leu Asp Leu Ile Ala Thr Met Leu Val 346 1620 1625 348 Leu Gln Phe Ile Arg Thr Arg Leu Glu Lys Glu Gly Ile Val Phe Lys 1640 351 Ser Leu Met Lys Met Asp Asp Pro Ser Ile Ser Arg Asn Ile Pro Trp 352 1650 1655 1660 354 Ala Phe Glu Ala Ile Lys Gln Ala Ser Glu Trp Val Arg Arg Thr Glu 355 1665 1670 1675 357 Gly Gln Tyr Pro Ser Ile Cys Pro Arg Leu Glu Leu Gly Asn Asp Trp 1685 1690 360 Asp Ser Ala Thr Lys Gln Leu Leu Gly Leu Gln Pro Ile Ser Thr Val

VERIFICATION SUMMARY

DATE: 10/25/2005

PATENT APPLICATION: US/10/510,506

TIME: 11:58:03

Input Set : A:\US10510506-seq list.txt Output Set: N:\CRF4\10252005\J510506.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date